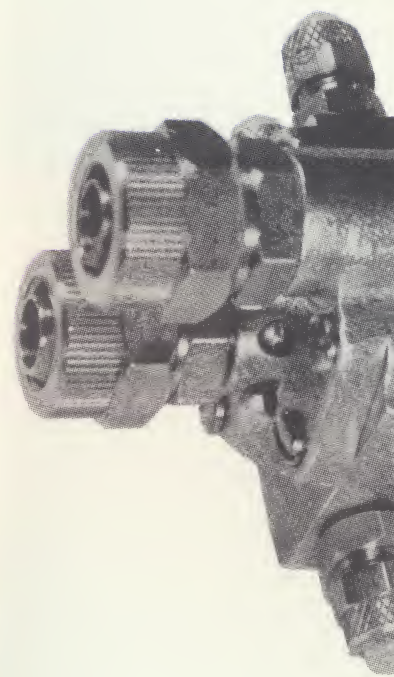




FLUIDONICS®

DIVISION OF IMPERIAL-EASTMAN CORP.
6300 W. HOWARD ST., CHICAGO, ILL. 60648

FLUI



FLUIDIC VO

FLUIDONICS VORTEX AMPLIFIERS

The Vortex Amplifier is essentially a variable restrictor which achieves resistance to flow by a means of a constrained vortex. In addition to modulating flow, a Vortex Amplifier can also modulate power. Vortex Amplifiers control the flow of both liquids and gases.

Some promising areas of application for flow control are chemical processing, oil refining, food processing, natural gas systems, engine fuel control and boiler control. Vortex power amplifiers can be used in hydraulic and pneumatic systems as power stages for driving cylinders and motors. They can also be used for piloting conventional control valves. They have the potential for being applied in all types and varieties of fuel power systems.

The double chamber vented Vortex Amplifier shown that is now ready for test marketing has the characteristics of a servo valve. It differs from conventional servo valves in that the input signal is fluidic rather than electrical, but the net result is the same. Because of no moving parts, the frequency response of the fluidic servo valve is very high: in the vicinity of 50 - 75 cps. An additional advantage of this system over conventional servo valves is a relative insensitivity to contamination. This becomes obvious when one considers the large flow passages used in fluidic devices and the extremely small clearances characteristics of spool valves.

Types Available

There are four types of Fluidonics Vortex Amplifiers (three sizes each) available for test marketing at this moment. They are: the single chamber vented, the single chamber non-vented, the double chamber vented, and the double chamber non-vented. Shown is a complete list of types and sizes.

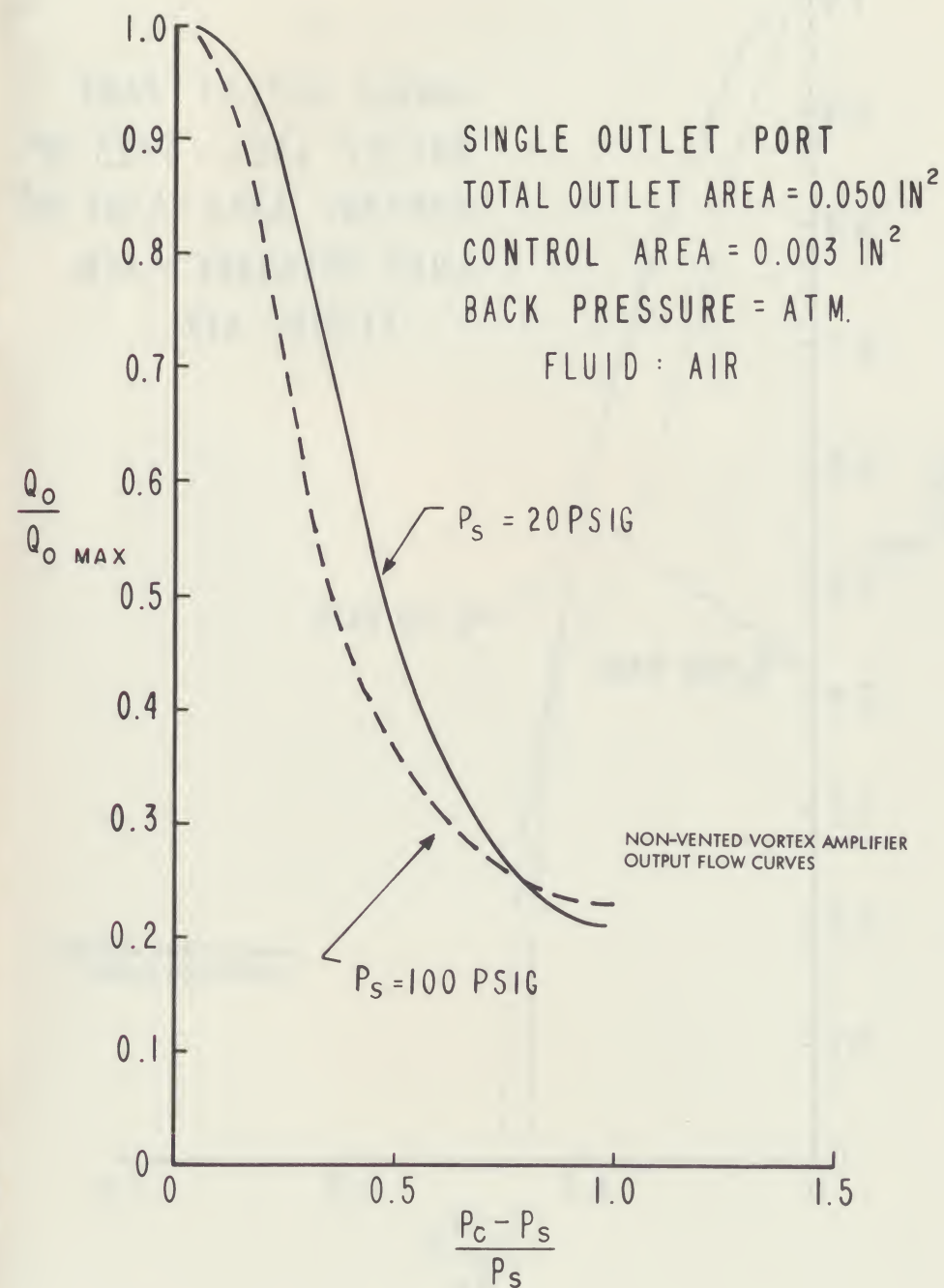
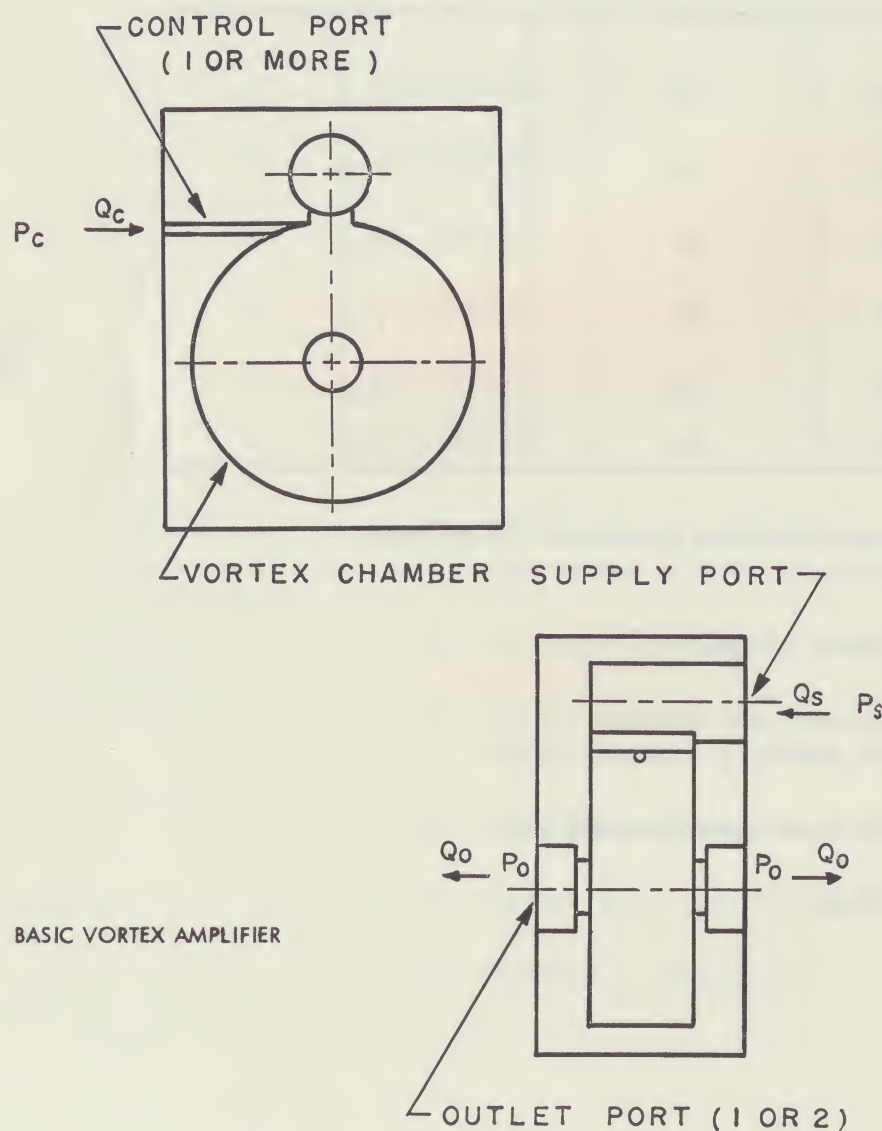
FLUIDONICS VORTEX AMPLIFIER SIZES

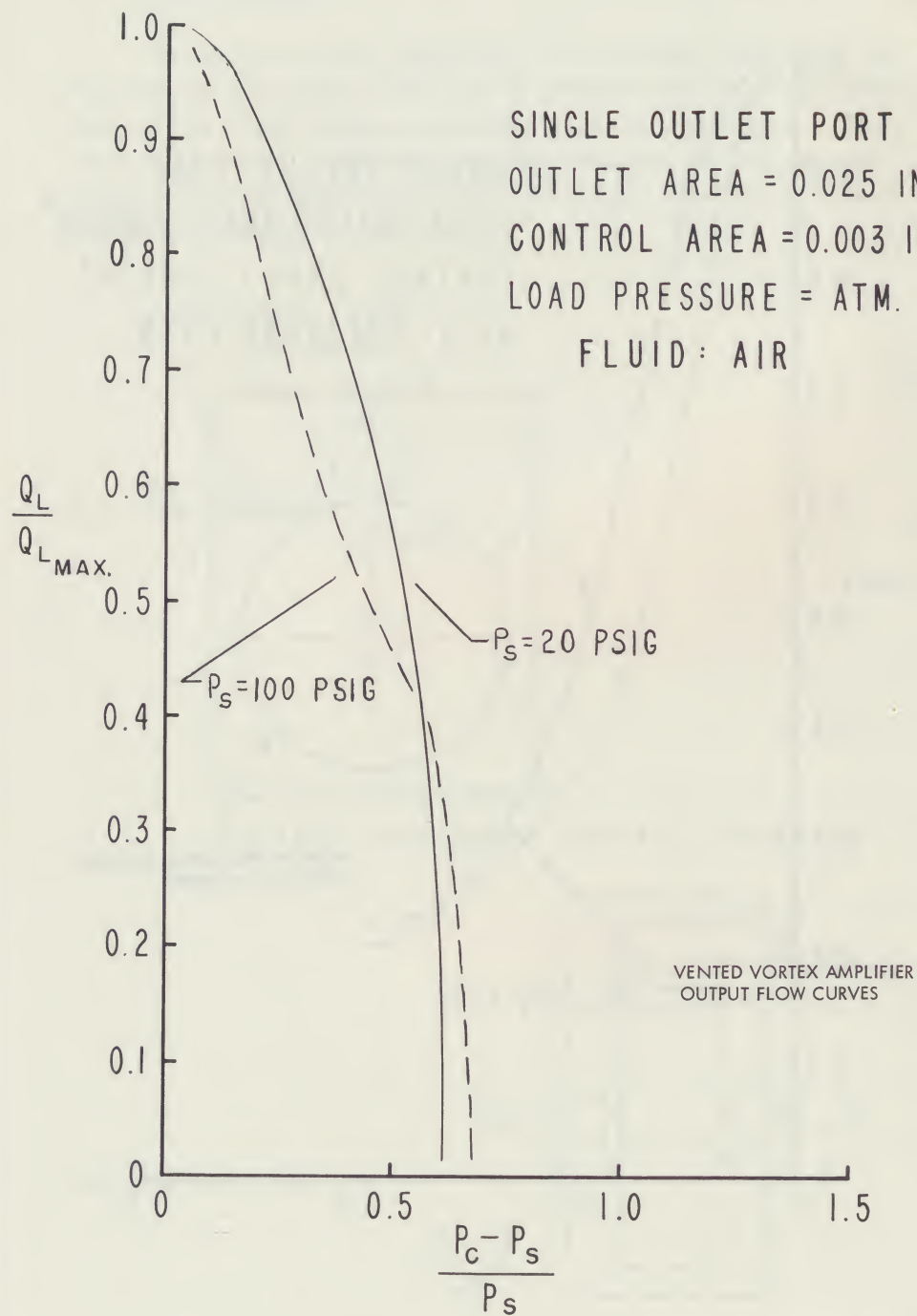
Model Size	Amplifier Identification	Number of Vortex Chambers	Outlet Orifice Diameter Inches	C _v of Outlet Port	Max. Output Flow At 50 psig supply, scfm	Max. Output Power at 50 psig Supply (vented) h.p.
4	FV-1100-4A	2	0.125	0.45	14	1.3
4	FV-1000-4A	1	0.125	0.45	14	1.3
5	FV-1100-5A	2	0.180	0.90	28	2.6
5	FV-1000-5A	1	0.180	0.90	28	2.6
6	FV-1100-6A	2	0.250	1.80	56	5.2
6	FV-1000-6A	1	0.250	1.80	56	5.2

1. All above are available vented or non-vented making a total of 12 different types/sizes to meet specific requirements.
2. All amplifiers have 3 control ports per vortex chamber.
3. Double chamber amplifiers have one outlet port per chamber. Single chamber amplifiers have two outlet ports.
4. Performance data given is for single outlet port operation with air.
5. Control ports are 1/16 inch diameter orifices.
6. Material is aluminum.

Control Inputs

As in all Vortex Amplifiers, the control fluid must be the same as the supply fluid and a pressure source greater than that of the fluid being controlled must be available. The amount of control pressure is usually between 50-100 percent greater than the supply pressure. The output flow curves shown are for the Model 5 amplifier.





PRICE LIST

FLUIDONICS VORTEX AMPLIFIERS

Model Number	Price*
FV-1000-4A	\$115.00
FV-1000-5A	115.00
FV-1000-6A	115.00
FV-1100-4A	150.00
FV-1100-5A	150.00
FV-1100-6A	150.00

The above amplifiers are furnished in the non-vented configuration. To convert to a vented output, the following hardware is required:

Amplifier Size	Hardware Assortment	Price
-4A	FA-4000-4B	\$ 2.50
-5A	FA-4000-5B	2.50
-6A	FA-4000-6B	2.50

*These prices are for the initial pre-production run only. Substantial price adjustments will be made when production units are available.

FLUIDONICS
Division Imperial-Eastman Corporation
6300 West Howard St.
Chicago, Illinois 60648

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